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# E-business in Lithuania Transport Sector: Current Situation and Challenges Ahead

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**Abstract:** Lithuania has a well-developed transportation system. Its geographically strategic position is very important to European transport corridors. In Lithuania, there are various important factors that contribute to shaping the sector's characteristics — lack of knowledge, a low level of computerization and Internet usage — that cause 'e-business possibilities' not to be used. An appropriate analysis of effective e-business usage for the development of competitive advantage between transportation companies is a very important task which requires theoretical grounding and research of practical possibilities. The purpose of paper is to analyze the use of e-business in Lithuania's transportation companies. The survey was supposed to act as a guideline to the future of Internet usage in the Lithuanian transportation industry. The survey tried to find out considerations about the Internet, how it had affected their business and activities and what might happen in the future.

## I. Introduction

Lithuania has a well-developed transportation system. Its geographically strategic position is very important to European transport corridors. The EU's Transport Commission has designated Lithuania as the region's transport hub, with 2 out of the 10 priority corridors in Europe intersecting Lithuania. A network of European-standard 4-lane highways link major industrial centres. Road construction is underway for connecting with the Trans-European transportation network. It will be part of the transportation system around the Baltic Sea and a transportation axis linking Russia and the Baltic Sea. The country offers 4 international airports and an ice-free port on the Eastern Baltic. In this context Lithuania's transportation facilities play an import role in the country.

Considerable attention is paid to the development of transport and communications through Government approved programmes. One of the basic provisions of this programme is to create a long-term strategy for the development of different transport sectors within the national transport system to meet core strategic objectives of the European common transport policy. The use of ICT and e-business in transportation companies allows them to offer more competitive services to their consumers.

ICT based e-business can influence logistics and transportation activities. There indications that development in information technologies have reached a level of maturity

where with available systems there are little constraints on what may be possible to achieve in logistics. Despite the availability of advanced information systems and technologies for use in the sector, there remains the issue of knowledge for using these. 'E-business' can be considered as one of those tools (Persson, 2003).

**Problem.** *This article is focused on the study of the role of e-business in Lithuanian transport sector enterprises. The new opportunities for companies, which can be achieved by using e-business become vitally important for competing in the market. In Lithuania, there are various important factors that contribute to shaping the sector's characteristics — lack of knowledge, a low level of computerization and Internet usage — that cause 'e-business possibilities' not to be used.. An appropriate analysis of effective e-business usage for the development of competitive advantage between transportation companies is a very important task which requires theoretical grounding and research of practical possibilities.*

**The purpose of research.** *The purpose of the research reported in this paper is to analyze the use of e-business in Lithuania's transportation companies.*

## II. The Internet and E-business in Logistics

In most cases, e-business and e-commerce has been focused on the fulfilment of customer orders and the distribution process. It was, and still is, believed that e-business and the increased connectivity of the Internet will give rise to new customer behaviour and that this will have serious implications on the whole industry. This has been confirmed from various sources (e.g. Lancioni et al., 2000; Barua et al., 2001; Javalgi and Ramsey, 2001). In an investigation from 2000 it was concluded that the most popular use of the Internet for supply chain management was in transportation, followed by order processing, managing vendor relations, purchasing procurement, and customer service (Lancioni et al., 2000).

More sophisticated customer demand chains and e-business processes pose new challenges to logistics service providers. Research & development into new logistics service concepts are required regardless of the line of business both in B2B and B2C environments. Unless products are non-material, physical distribution logistics is one of the key challenges for the supply networks of e-marketplaces. The development of effective e-business processes will increase the importance of particularly delivery accuracy, delivery frequency and delivery time.

A prerequisite for effective relations is the extensive use

of information technology. Partnering would never have emerged in its present potent form without the explosion in information technologies, which enabled companies to merge critical elements of their business systems with relative ease and speed. Only then could they capture the efficiency and effectiveness benefits of tearing down the boundaries between firms. The Internet is an ideal medium to use as a backbone in any partnership. An example of a company that has structured its relationships around the Internet is Dell Computer Corporation.

E-business opens up an entirely new market for actors in the logistics field. Logistics and distribution systems that function efficiently and effectively in all respects will be crucial for the success of the companies involved. This implies that manufacturing companies, and especially logistics companies, must identify and create effective logistics solutions in order to compete in the marketplace.

### III. Research Results

The empirical research carried out among Lithuania's transport companies has been conducted using questionnaires. A questionnaire was sent to Web-present Lithuanian companies in this industry. The purpose of the survey was to investigate how transportation companies use the Internet and what sort of problems it brings. A total number of 113 respondents participated in the survey. The survey was supposed to act as a guideline to the future of Internet usage in the Lithuanian transportation industry. The survey tried to find out considerations about the Internet, how it had affected their business and activities and what might happen in the future. The survey also intended to find out the purpose of respondent companies Internet investment, which individual was behind it and what problems it brought.

The results show that most of the enterprises surveyed use e-business rather recently, only 21% of enterprises participated in the investigation use e-business for more than three years. 30 % of enterprises use e-business less than one year and 49 % - for 1-3 years. Thus e-business in Lithuania is rather young phenomenon and this fact largely influences these results.

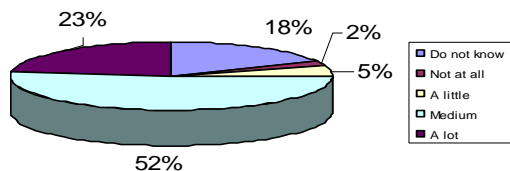


Figure 1. Internet effect on companies activities

The companies in the survey were asked questions on how the Internet has affected their company or what kind of changes it has generated. 75 percent said that the Internet

had affected internal communication to a 'medium'/'a lot' extent. Contacts with customers, suppliers and partners also seem to have been greatly affected. However, the Internet does not seem to have influenced either profit nor competitive advantage or development of new products/services so far. These results indicate that most companies have not fully begun to use the Internet's advantages, i.e. for more than as a communication tool.

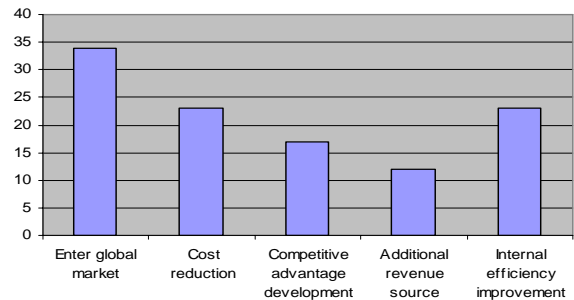


Figure 2. Objectives of e-business decisions

Companies participating in the survey were also asked to evaluate the Internet and e-business influence on the future company's activities. Many companies reported that communication, both internal and external, to be greatly affected by the Internet. Moreover, many companies see the potential with of Internet as a communication tool. Moreover, 61 percent believe that it might generate new customers and reach new markets. The Internet is also perceived to affect the development of new product/services as well as giving a higher quality of service. However, it is noteworthy that many companies think it will greatly affect profits – 61 percent believe profits will be affected to a medium extent or a lot while 37 percent think a little or not at all.

Less than half of the companies in the survey have an Internet strategy while the other half has none. On the other hand, in most companies Internet-related issues are often discussed at a top management level, 41 percent do this to a medium extent or a lot compared to 42 percent who do not discuss these issues at all or just a little. This leads us to believe that many companies have now realized that the Internet will have future impacts on the industry. Only few companies have a special e-business department – only 11 percent compared to 89 percent who have not. However, many perceive the Internet to be a natural part of future strategies as well as an important tool for establishing future competitive edge.

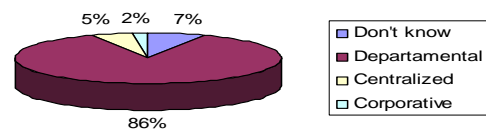


Figure 4. Level of e-business solutions

In few enterprises surveyed e-business solutions are accepted and implemented in a centralized way, i.e. decisions for e-business use, objectives, technologies selections etc., are made by the top management. A large proportion of the enterprises state that e-business solutions do not cross boundaries of division, department or section. Thus in order to achieve higher development stage enterprises should pay particular attention to e-business decision-making and the implementation of systems. The most important aspect in this respect is that not only one department or division, not only top management, but all employees of an enterprise should be involved into the decision-making and implementation of a company's e-business.

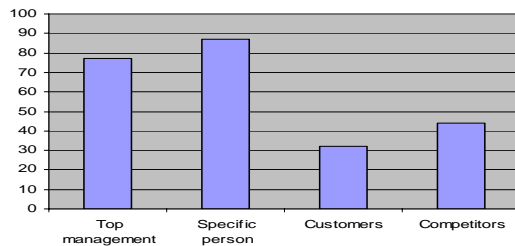


Figure 4. E-business investment drivers

It appears to be top management or individual persons that are prime movers for an Internet investment. 77 percent answered that top management was the driver, which gives an indication that the Internet is considered to be of importance for the industry. However, more said that a specific person had had a great influence on the investment. However, only 44 percent said that competitors activities greatly influenced the Internet investment with 20 percent claiming they had a medium impact.

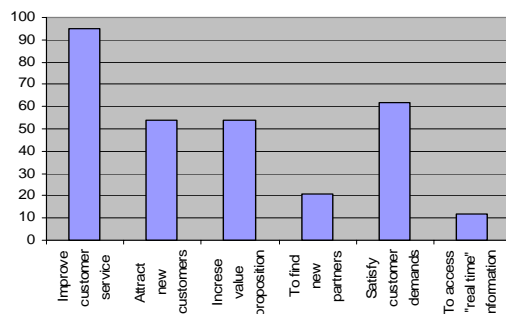


Figure 5. Marketing activities improvement using e-business

Internet investment is primarily seen as a marketing tool and as a tool to improve customer service. A total of 95 percent thought this to be of importance. 54 percent also claimed that the investment was supposed to attract new customers as well as increasing the value of existing services. However, it does not seem to be of interest in the industry to partner with online companies. Only 29 percent claimed partnering to be of medium interest or very interesting while 79 percent thought it was of little or no interest. Instead, 62 percent said that they had invested in the Internet in order to satisfy customer demands.

Many discussions about the Internet concern security

and complexity issues and one could assume that many companies would consider these to be some of the major problems with their the Internet investment. The majority of the companies in the survey did not seem to share this apprehension; instead 63 percent claimed that an obstacle was the difficulties with measuring the effects of the investment. Moreover, half of the companies said the customers did not request it while the other half claimed they did. In general, no particular problem was emphasized.

## IV. Conclusions

Summarizing the research results, it can be stated that thus far the Internet has primarily been perceived as a communication tool, both for internal as well as external use in the Lithuanian transportation sector. This is also regarded to be of considerable future importance though the companies also see e-business solutions as a way to attract new customers. Another field of application for e-business is marketing as well as a tool for development of new products and/or increasing their values. Only half of the companies in the survey seem to have a specific Internet strategy whereas the other half has not. However, for a majority of the companies surveyed, Internet related issues are often discussed at a top management level leading us to believe that the industry has realised the importance of e-business to their sector. Most companies consider the Internet to be a natural part of future strategies and a significant contributor to future competitive advantage.

For most companies, the prime movers for an Internet investment have been either top management or a specific person at their company. The purpose of the investment was to attract new customers, improve customer service, and increase the value on existing services, sales and to satisfy to customers' expectations. However, not as many respondents as expected claimed the purpose of the investment to be efficiency improvements. The majority of the companies did not appear to have any specific problems with their e-business investment.

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